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|  | **Physics** | **شعار-القسم** |
| **Worksheet-5-**  Electric motor |

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| Name: Class: 8 /……........ | |
| Book pages:240-246 | |
| **23-1-2012** | Date: |
| **8.19.3- 8.19.4-8.19.5** | Core Standard number |
| 1. Know that a wire carrying a current creates a magnetic field . 2. Know that when a wire carrying a current and placed in a magnetic field undergoes a magnetic force. 3. Understand why an electric motor turns. | Learning Objectives  Logo + text 2 |

1. a- Set the following apparatus

Wire carrying current

Compass needle

Stand

b- What happened to the compass needle when a current passes through the wire? Conclude.

The compass needle will change direction.

Wire carrying current creates around it a magnetic field.

1. a- Set the following apparatus



b- Close the circuit : the freely wire carrying current moves it undergoes a force.

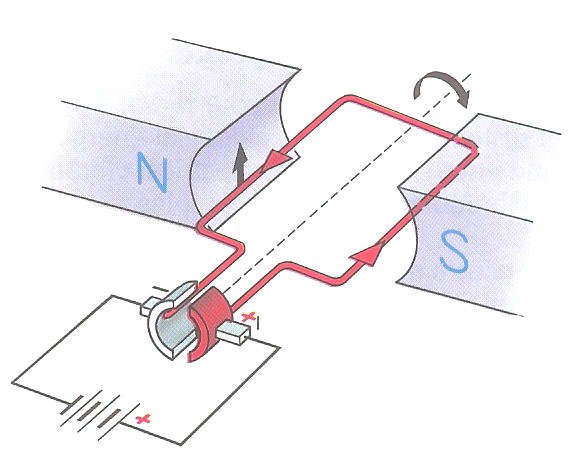
1. Conclusion: wire carrying current and placed in a magnetic field will undergo a magnetic force.
2. a- Define electric motor:

The electric motor is a device that changes the electric energy into mechanical energy.

1. Label the diagram of electrical motor below :

North pole

South pole



Brushes

Commutator

1. What is the function of the following in electric motor?

-Brushes maintains the electric contact between generator and the commutator.

-Commutator: is a copper ring cut into two halves which is reverse the current every half turn.

1. Practical electric motor can be made more powerful in four ways:

1- A large number of turns are wound on the coil.

2- A soft-iron core is used so that the magnetic field is stronger.

3- The permanent magnet can be replaced by electromagnets which give a stronger field.

4- Add extra coils are round the core.